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#### **BAA 06-21 PROPOSER INFORMATION PAMPHLET**

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The Defense Advanced Research Projects Agency (DARPA) often selects its research efforts through the Broad Agency Announcement (BAA) process. The BAA will be posted directly to FedBizOpps.gov, the single government point-of-entry (GPE) for Federal government procurement opportunities over \$25,000. The following information is for those wishing to respond to the Broad Agency Announcement.

Spoken Language Communication and Translation System for Tactical Use (TRANSTAC); SOL BAA 06-21; Abstracts Due: 24 February 2006; Proposals due: Initial Closing: 24 March 2006, Final Closing: 30 January 2007; POC: MARI MAEDA, DARPA/IPTO; FAX: (703) 741-7804

#### PROGRAM OBJECTIVES AND DESCRIPTION

#### 1. INTRODUCTION

DARPA seeks proposals for research and development in support of Phase II of the Spoken Language Communication and Translation System for Tactical Use (TRANSTAC) program. The goal of the TRANSTAC program is to demonstrate capabilities to rapidly develop and field translation systems that enable speakers of different languages to communicate with one another in real-world tactical situations. Systems will support languages of relevance to national security, must be speaker-independent, and extremely easy to use for mobile end-users. A specific program objective is to reduce the amount of time required to support new languages or domains to less than 100 days.

# 2. CHALLENGES

Today, phrase-based translation devices are being tactically deployed. These one-way devices translate English input into pre-recorded phrases in target languages. While such systems are useful in many operational settings, the inability to translate the foreign speech into English is a significant limitation. The goal of the TRANSTAC program is to demonstrate systems that enable free-form two-way translation and communications in tactically relevant environments. To date, several prototype systems have been developed for force protection and medical screening domains in Iraqi Arabic, Mandarin, Farsi, Pashto, and Thai. Systems have been demonstrated on both PDA and laptop-grade platforms with varying performance.

The primary use cases involve US military personnel and local foreign language speakers. While the military personnel will be trained to use the systems, the assumption is that the foreign language users will have little or no chance to become familiar with using the system. The systems must also support mobile users, though development will not be limited to compact PDA-based platforms. The systems will be used outdoors with

typical urban background sounds including voices and vehicular sounds, and will support conversational interactions at a natural pace.

In order for the system to perform reliably in real-world tactical environments, dramatic improvements need to be made in many areas including: speech recognition, machine translation, noise robustness, user interface design, and efficient performance on limited hardware platforms. Advanced system development tools are essential to support new domains and languages quickly and in an efficient matter. Hence, structured yet rich domain specification methodology, novel ways for collecting linguistic data, and new techniques for transferring capabilities developed for one language to others are among those sought.

#### 3. AREAS OF INTEREST

DARPA seeks 3-year proposals (12 month base period of performance with 24 months of optional work) with innovative ideas in three major areas:

- 1. Robustness
- 2. Rapid Development
- 3. Evaluations

Offerors may address one or all three of the above areas in their proposal. All interested parties are strongly encouraged to submit white papers prior to full proposal submission. Focus on any specific language or dialect should be justified both technically and from a national security perspective.

#### 3.1 ROBUSTNESS

High system performance must be maintained for wide-ranging and quickly changing topics of conversation. Detection and quick adaptation to changing conditions such as variability in speakers and ambient noise must be supported. Possible approaches to mitigating errors include, but are not limited to:

- Context awareness or tracking
- Coupling or feedback mechanisms between machine translation and speech recognizer components
- Integrating additional modes of communication, for example incorporating use of visual inputs to augment audio speech input
- Novel user interface design that maximizes ease-of-use for both English and foreign language speakers
- Improved hardware

# 3.2 RAPID DEVELOPMENT

Languages and regions of interest to the Department of Defense can change very quickly. Speech-to-speech translation systems must to be developed very quickly to respond to the changing national security needs. It is therefore highly desirable to develop new development and data processing tools as well as explore ways to

leverage existing systems, data, models and algorithms to rapidly port core capabilities to new domains and to new dialects or languages. It is also necessary to develop new methods to maximally leverage limited amounts of data that might be available. Potentially useful techniques would:

- Effectively use data from language A to bootstrap initial capability in language B, exploiting phonetic or other structural similarities between A and B
- Provide a systematic basis for determining structural similarity, so data from language A could be identified as the best source for porting to language B
- Provide framework for domain definition and scenario specification so domain information can be re-used as appropriate or adapted as necessary
- Provide methods for automated data collection and adaptive performance enhancements in the field. Experimental plans to test this or related concepts would be of high interest

The ultimate goal is to create a capability to demonstrate systems in any new languages or domains in less than 100 days during times of national urgency. Proposals should include a timeline and a breakdown of data collection/processing and development activities, and estimate possible time savings that can be achieved by the proposed new tools or techniques. Choice of language(s), planned experiments and test methodology should be included. DARPA will coordinate periodic evaluations based on surprise languages.

#### 3.3 EVALUATIONS

Human communication mediated by a speech-to-speech translation device will be evaluated as a system and not as the sum of its components. Quarterly evaluations led by an Independent Evaluation Team are planned. New techniques, tools, and protocols are sought to support evaluations of the system performance. The following areas are of particular interest:

- Evaluation techniques to derive a fine-grained "concept transfer rate" or a similar measure of information transfer within a given time period
- An effective method to relate the system performance to the quantity and quality of training data
- Ways to determine effective portability to new languages and domains

Proposals should provide the details of the end-to-end performance measure and the evaluation protocol.

### 4. PHASE II METRICS

The program emphasizes live system usability testing and will use the metric of "Concept Transfer Rate" to measure the system performance under various conditions that simulate tactical settings. The evaluation metrics, methodology and Go/No-Go criteria are outlined below.

#### Evaluations and Go/No-Go Metrics

TRANSTAC will emphasize system usability testing.
The program will also measure component software performance.

#### **System Usability Testing**

**Metrics**: Concept transfer rate. Number of concepts successfully transferred within given time (T). T=10 minutes. Number of concepts embedded in interchange N=20.

**Methodology:** Create tactical mission for extracting or conveying N pieces of information. Record and analyze interaction between soldiers and native speakers (untrained in the use of the device) in realistic live settings. Score, taking into account the complexity of demand (command, yes/no question, fact question etc). Questionnaire administered to determine concepts captured, user satisfaction etc. These live tests will be enhanced with additional offline evaluations.

#### **Software Component Testing**

Metrics: BLEU Scores, Word Error Rate.

**Methodology:** Provide same set of prepared data to performers. Evaluate the performance of speech recognition and machine translation software components.

#### Phase I Go/No-Go

Soldiers ask questions. Native speakers respond.

Establish baseline at 6 months from data collection start date.
At 12 months, 100% increase in likelihood rat

At 12 months, 100% increase in likelihood ratio for percent of concepts correctly transferred.

#### Phase II Go/No-Go

Soldiers ask questions. Native speakers can also ask questions or offer unsolicited information.

Same as Phase I except baseline reference is established at the end of Phase I.

Note that Phase I of the program will end in April 2006 and the evaluation results from Phase I will be made available to all performers as baseline reference. Phase II Go/No-Go evaluations are currently planned for May 2007.

The number of coarsely defined "concepts" is today set at N=20 during each test interaction and refers to relatively straightforward answers to soldier-asked questions. (For example: "How often is the trash picked up?", "Once a week"). The quality of each translated utterance is judged by a group of bilingual experts. Based on the performance of baseline systems at the end of Phase I, N for Phase II may be adjusted to account for more complex questions/answers. We are especially interested in defining a more fine-grained, less subjective measure of concept transfer. These and other details of evaluations process will be reviewed and clarified at the launch of Phase II.

#### 5. PROGRAM SCOPE

Proposed research should investigate innovative approaches and techniques that lead to revolutionary advances in the state-of-the-art. Proposals are not limited to the specific strategies listed above, and alternative visions will be considered. However, proposals should be for research that substantially contributes towards the goals stated. Specifically excluded is research that primarily results in minor evolutionary improvement to the existing state of practice or focuses on special-purpose systems or narrow applications.

#### **GENERAL INFORMATION**

Proposals not meeting the format described in this pamphlet may not be reviewed. Proposals <u>MUST NOT</u> be submitted by fax or e-mail; any so sent will be disregarded. This notice, in conjunction with the BAA 06-21 FBO Announcement and all references, constitutes the total BAA. A Frequently Asked Questions (FAQ) list may be provided. The URL for the FAQ will be specified on the DARPA/IPTO BAA Solicitation page. No additional information is available, nor will a formal Request for Proposal (RFP) or other solicitation regarding this announcement be issued. Requests for same will be disregarded. All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA. Historically Black Colleges and Universities (HBCUs), Small Disadvantaged Businesses and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for Small Disadvantaged Business, HBCU and MI participation due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities.

Proposals selected for funding are required to comply with provisions of the Common Rule (32 CFR 219) on the protection of human subjects in research (<a href="http://www.dtic.mil/biosys/downloads/32cfr219.pdf">http://www.dtic.mil/biosys/downloads/32cfr219.pdf</a>) and the Department of Defense Directive 3216.2 (<a href="http://www.dtic.mil/whs/directives/corres/html2/d32162x.htm">http://www.dtic.mil/whs/directives/corres/html2/d32162x.htm</a>). All proposals that involve the use of human subjects are required to include documentation of their ability to follow Federal guidelines for the protection of human subjects. This includes, but is not limited to, protocol approval mechanisms, approved Institutional Review Boards, and Federal Wide Assurances. These requirements are based on expected human use issues sometime during the entire length of the proposed effort.

For proposals involving "greater than minimal risk" to human subjects within the first year of the project, performers must provide evidence of protocol submission to a federally approved IRB *at the time of final proposal submission to DARPA*. For proposals that are forecasted to involve "greater than minimal risk" after the first year, a discussion on how and when the proposer will comply with submission to a federally approved IRB needs to be provided in the submission. More information on applicable federal regulations can be found at the Department of Health and Human Services – Office of Human Research Protections website (http://www.dhhs.gov/ohrp/).

Security classification guidance on a DD Form 254 (DoD Contract Security Classification Specification) will not be provided at this time since DARPA is soliciting ideas only. After reviewing incoming proposals, if a determination is made that contract award may result in access to classified information, a DD Form 254 will be issued upon contract award. If you choose to submit a classified proposal you must first receive the permission of the Original Classification Authority to use their information in replying to this BAA.

DARPA has determined that work for this program is to be funded by budget category 6.2 (Applied Research). This means that research performed under this program on-

campus at a university is considered contracted fundamental research; therefore, public releases of information about such research are not subject to prior Government review. The definition of CONTRACTED FUNDAMENTAL RESEARCH is contained in DOD Instruction 5230.27 and can be found at

http://www.dtic.mil/whs/directives/corres/pdf2/i523027p.pdf. Public release of information about research performed under circumstances other than those described above is subject to prior government review, according to the procedures available at <a href="http://www.darpa.mil/tio">http://www.darpa.mil/tio</a>.

#### SUBMISSION PROCESS

#### ABSTRACT FORMAT AND SUBMISSION

In order to minimize unnecessary effort in proposal preparation and review, offerors are strongly encouraged to submit brief abstracts in advance of a full proposal. An abstract should state clearly the uniqueness of the idea presented in the context of existing state-of-the-art in the technical area of interest. Demonstrating that the offeror has a clear understanding of the state-of-the-art and that their proposed effort will make significant improvements therein is essential for a successful proposal. A short description of the team structure and the technical expertise of the principal investigator and other key team members should be provided. Finally, an outline of evaluation procedures, a list of deliverables, and an estimate of the program costs should be included. Abstracts should not be longer than 6 pages.

This BAA requires completion of an online Cover Sheet for each Abstract prior to submission. To do so, the offeror must go to <a href="https://csc-ballston.dmeid.org/baa/index.asp?BAAid=06-21">https://csc-ballston.dmeid.org/baa/index.asp?BAAid=06-21</a> and follow the instructions there. Each offeror is responsible for printing the BAA Confirmation Sheet and attaching it to every copy. The Confirmation Sheet should be the first page of the abstract. If an offeror intends to submit more than one abstract, a unique UserId and password must be used in creating each Cover Sheet. Failure to comply with these submission procedures may result in the submission not being evaluated.

Offerors must submit the original and 2 copies of the abstract *and* 2 electronic copies (i.e., 2 separate disks) of the abstract (in PDF or Microsoft Word 2000 for IBM-compatible format on a 3.5-inch floppy disk or cd). **Mac-formatted disks will not be accepted**. Each disk must be clearly labeled with BAA 06-21, offeror organization, abstract title (short title recommended) and "Copy \_\_\_\_ of 2". The abstract (original and designated number of hard and electronic copies) must be submitted to DARPA/IPTO, ATTN: BAA 06-21, 3701 N. Fairfax Drive, Arlington, VA 22203-1714, in time to reach DARPA by 12:00 NOON (ET) **24 February 2006** to guarantee review. DARPA will acknowledge receipt of submissions and assign control numbers that should be used in all further correspondence regarding abstracts.

After review of abstracts, DARPA will make a recommendation to offerors either encouraging or discouraging submission of full proposals. DARPA will accept abstracts

beginning one week after the BAA is posted until the abstract closing date. Because the recommendations based on abstracts will be made on an ongoing basis, offerors are encouraged not to wait until the closing date to make their submissions. Regardless of the recommendation, the decision to propose is the responsibility of the offeror. All submitted proposals will be fully reviewed, regardless of the disposition of the abstract. However, proposals will not be reviewed until after the 24 March 2006 deadline.

#### PROPOSAL SUBMISSION

This BAA requires completion of an online Cover Sheet for each Proposal prior to submission. To do so, the offeror must go to <a href="https://csc-ballston.dmeid.org/baa/index.asp?BAAid=06-21">https://csc-ballston.dmeid.org/baa/index.asp?BAAid=06-21</a> and follow the instructions there. Each offeror is responsible for printing the BAA Confirmation Sheet (which will appear upon cover sheet submission) and attaching it to every copy. Cover sheets already submitted for abstracts may not be re-used or edited for proposal submissions. If an offeror intends to submit more than one Proposal, a unique UserId and password must be used in creating each Cover Sheet. The Confirmation Sheet should be the first page of the Proposal. If an offeror intends to submit more than one Proposal, a unique UserId and password must be used in creating each Cover Sheet. Failure to comply with these submission procedures may result in the submission not being evaluated.

Proposers must submit the original and 2 copies of the full proposal and 2 electronic copies (i.e., 2 separate disks) of the full proposal (in PDF or Microsoft Word 2000 for IBM-compatible format on a 3.5-inch floppy disk or cd). Mac-formatted disks will not be accepted. Each disk must be clearly labeled with BAA 06-21, proposer organization, proposal title (short title recommended) and "Copy \_\_\_\_ of 2". The full proposal (original and designated number of hard and electronic copies) must be submitted in time to reach DARPA by 12:00 PM (ET) 24 March 2006, in order to be considered during the initial evaluation phase. However, BAA 06-21, Spoken Language Communication and Translation System for Tactical Use (TRANSTAC) will remain open until 12:00 NOON (ET) 30 January 2007. Thus, proposals may be submitted at any time from issuance of this BAA through 30 January 2007. While the proposals submitted after the **24 March 2006,** deadline will be evaluated by the Government, proposers should keep in mind that the likelihood of funding such proposals is less than for those proposals submitted in connection with the initial evaluation and award schedule. DARPA will acknowledge receipt of submissions and assign control numbers that should be used in all further correspondence regarding proposals.

Restrictive notices notwithstanding, proposals may be handled for administrative purposes by support contractors. These support contractors are prohibited from competition in DARPA technical research and are bound by appropriate non-disclosure requirements. Input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants /experts who are also bound by appropriate non-disclosure requirements. However, non-Government technical consultants/experts will not have access to proposals that are labeled by their offerors as "Government Only". Use of non-government personnel is covered in FAR 37.203(d).

## REPORTING REQUIREMENTS/PROCEDURES:

The Award Document for each proposal selected and funded will contain a mandatory requirement for submission of DARPA/IPTO Quarterly Status Reports and an Annual Project Summary Report. These reports will be electronically submitted by each awardee under this BAA via the DARPA/IPTO Technical – Financial Information Management System (T-FIMS). The T-FIMS URL will be furnished by the government upon award. Detailed data requirements can be found in the Data Item Description (DID) DI-MISC-81612A available on the Government's ASSIST database (<a href="http://assist.daps.dla.mil/quicksearch/">http://assist.daps.dla.mil/quicksearch/</a>).

#### PROPOSAL FORMAT

# PROPOSALS THAT DO NOT COMPLY WITH THE FOLLOWING REQUIREMENTS MAY BE REJECTED WITHOUT REVIEW.

Proposals shall include the following sections, each starting on a new page and with text on one side only. Each page must be letter size (8-1/2 by 11 inches) with type not smaller than 12 point (except in illustrations). Maximum page lengths for each section are given in braces {} below.

## **Section I. Administrative**

Cover Page

This page is comprised of the content of BAA Confirmation Sheet including:

- A. BAA number;
- B. Proposal title;
- C. Technical point of contact including: name, telephone number, electronic mail address, fax (if available) and mailing address;
- D. Administrative point of contact including: name, telephone number, electronic mail address, fax (if available) and mailing address;
- E. Summary of the costs of the proposed research, including total base cost, estimates of base cost in each year of the effort, estimates of itemized options in each year of the effort, and cost sharing if relevant;
- F. Contractor's type of business, selected from among the following categories: "WOMEN-OWNED LARGE BUSINESS," "OTHER LARGE BUSINESS," "SMALL DISADVANTAGED BUSINESS [Identify ethnic group from among the following: Asian-Indian American, Asian-Pacific American, Black American, Hispanic American, Native American, or Other]," "WOMEN-OWNED SMALL BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI," "OTHER EDUCATIONAL," "OTHER NONPROFIT", or "FOREIGN CONCERN/ENTITY."

## **Section II. Detailed Proposal Information**

This section provides the detailed discussion of the proposed work necessary to enable an in-depth review of the specific technical and managerial issues. Specific attention must be given to addressing both risk and payoff of the proposed work that make it desirable to DARPA.

- A. Table of Contents {2}
- B. Executive Summary {1}:

This section should succinctly describe the uniqueness and benefits of the proposed approach relative to the current state-of-art and alternate approaches. Highlight any other unique strengths, technical or otherwise.

C. Quad Chart {1}:

One presentation formatted slide that summarizes the main objective, key innovations, expected impact, a graphical representation and any other unique aspects of the proposal.

D. Proposal Roadmap {1}:

The roadmap provides a top-level view of the content and structure of the proposal. It contains a synopsis (or "sound byte") for each of the areas defined below. It is important to make the synopses as explicit and informative as possible. The roadmap must be enumerated and cross-reference the proposal page number(s) where each area is elaborated. The roadmap areas are:

- 1. Main goals of the proposed research (stated in terms of new, operational capabilities).
- 2. Critical technical barriers (*i.e.*, technical limitations that have, in the past, prevented achieving the proposed results).
- 3. Main elements of the proposed approach.
- 4. Rationale that builds confidence that the proposed approach will overcome the technical barriers ("Our team has the right set of expertise and a strong track record" is NOT a useful statement).
- 5. Risks of the approach (Why this is hard).
- 6. Nature of expected results (unique and critical capabilities to result from this effort and the form in which they will be defined).
- 7. Methods for scientifically evaluating progress toward end-goal.
- 8. Cost of the proposed effort.
- E. Innovative Claims, Statement of Work and Deliverables {7}:

Describe the project goals and innovative claims. Define the technical tasks to be performed. For each task, provide:

- 1. A short description of the objectives.
- 2. A short description of the approach.
- 3. Identification of organization or team members responsible for task execution.
- 4. The resources allocated (cost, person-months).
- 5. The milestones and deliverables.

Describe any interdependencies between the tasks. Provide schedule graphics. Include in this section all proprietary claims to results, prototypes, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are no proprietary claims, this should be stated. The offeror must submit a separate list of all technical data or computer software that will be furnished to the Government with other than unlimited rights (see DFARS 227).

F. Technical Approach {12}:

Detailed Description of the Technical Approach. Provide a problem description and research goals. Provide a detailed description of the novel technical approach for achieving research goals. Proposals should identify DARPA-hard aspects of the problem. Describe risks associated with the approach and the strategies for mitigating them.

# G. Teaming {4}:

The proposal should describe the organizations and the individuals within those organizations that make up the team, including expected duties, relevant capabilities and task responsibilities of team members, and expected relationships among members. A description of the technical, administrative, and business structure of the team and the internal communications plan should be included. Project/function/subcontractor relationships, Government research interfaces, and planning, scheduling, and control practices should be described. *The team leadership structure should be clearly defined*. Provide a brief biography of the key personnel who will be involved in the research along with the amount of effort to be expended by each person during the year. Documentation of previous work or experience in the field of the offeror is especially important. DARPA expects all key personnel associated with a proposal to make a substantial time commitment to the proposed activity.

# H. Facilities {1}:

Describe the facilities that would be used for the proposed effort. If any portion of the research is predicated upon the use of Government Owned Resources of any type, the offeror shall specifically identify the property or other resource required, the date the property or resource is required, the duration of the requirement, the source from which the resource is required, if known, and the impact on the research if the resource cannot be provided. If no Government Furnished Property is required to conduct the proposed research, the proposal shall so state.

#### I. Costs {5}:

TRANSTAC BAA 06-21 requests 3-year cost proposals with a base period of performance of 12 months and options for an additional 24 months of work. Cost proposals shall provide a detailed cost breakdown of all direct costs, including cost by task, with breakdown into accounting categories (labor, material, travel, computer, subcontracting costs, labor and overhead rates, and equipment) for the entire contract and for each calendar year, divided into quarters. Cost breakdown is also required for any subcontractors. Where the effort consists of multiple portions that could reasonably be partitioned for purposes of funding, these should be identified as contract options with separate cost estimates for each. Costs for testing should be isolated as a separate line item.

- J. Offerors requiring the purchase of information technology (IT) resources as Government Furnished Property (GFP) MUST attach to the submitted proposals the following information:
  - 1. A letter on Corporate letterhead signed by a senior corporate official and addressed to Dr. M. Maeda, PM, DARPA/IPTO, stating that you either can not or will not provide the information technology (IT) resources necessary to conduct the said research.

- 2. An explanation of the method of competitive acquisition or a sole source justification, as appropriate, for each IT resource item.
- 3. If the resource is leased, a lease purchase analysis clearly showing the reason for the lease decision.
- 4. The cost for each IT resource item.
- K. Organizational Conflict of Interest: Awards made under this BAA may be subject to the provisions of the Federal Acquisition Regulation (FAR) Subpart 9.5, Organizational Conflict of Interest. All offerors and proposed subcontractors must affirmatively state whether they are supporting any DARPA technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the offeror supports, and identify the prime contract number. Affirmations should be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest, as that term is defined in FAR 2.101, must be disclosed, organized by task and year. This disclosure shall include a description of the action the contractor has taken, or proposes to take to avoid, neutralize, or mitigate such conflict.

# **Section III. Additional Information**

A bibliography of relevant technical papers and research notes (published and unpublished) that document the technical ideas, upon which the proposal is based, may be included in the proposal submission. Provide one set for the original full proposal and one set for each of the full proposal hard copies. Please note: the materials provided in this section, and submitted with the proposal, will be considered for the reviewer's convenience only and not considered as part of the proposal for evaluation purposes.

#### **EVALUATION AND FUNDING PROCESSES**

Proposals will not be evaluated against each other, since they are not submitted in accordance with a common work statement. DARPA's intent is to review proposals as soon as possible after they arrive; however, proposals may be reviewed periodically for administrative reasons. For evaluation purposes, a proposal is the document described in PROPOSAL FORMAT Section I and Section II (see above). Other supporting or background materials submitted with the proposal will be considered for the reviewer's convenience only and not considered as part of the proposal.

Evaluation of proposals will be accomplished through a scientific review of each proposal using the following criteria, which are listed in descending order of relative importance:

(1) Overall Scientific and Technical Merit: The overall scientific and technical merit must be clearly identifiable and compelling. The technical concepts should be clearly defined and developed. The technical approach must include sufficient detail to support the proposed concepts and technical claims. Evaluation will also consider the effectiveness of the system integration and management plan.

- (2) Innovative Technical Solution to the Problem: Offerors should apply new and/or existing technology in an innovative way that supports the objectives of the proposed effort. The proposed concepts and systems should show breadth of innovation across all the dimensions of the proposed solution. Offerors must also specify quantitative experimental methods and metrics for measuring progress of the effort.
- (3) Offeror's Capabilities and Related Experience: The qualifications, capabilities, and demonstrated achievements of the proposed principals and other key personnel for the primary and subcontractor organizations must be clearly shown.
- (4) Plans and Capability to Accomplish Technology Transition: The offeror should provide a clear strategy and plan for transition to military forces (and commercial sector, where applicable). Offerors should consider involving potential military transition partners, as appropriate, in any proposed experiments, tests and demonstrations. Offerors should also provide a plan for transition of appropriate technology components and information to the user community.
- (5) Cost Realism: The overall estimated costs should be clearly justified and appropriate for the technical complexity of the effort. Evaluation will consider the value of the research to the government and the extent to which the proposed management plan will effectively allocate resources to achieve the capabilities proposed.

The Government reserves the right to select all, some, or none of the proposals received in response to this solicitation and to make awards without discussions with offerors; however, the Government reserves the right to conduct discussions if the Source Selection Authority later determines them to be necessary. Proposals identified for funding may result in a contract, grant, cooperative agreement, or other transaction depending upon the nature of the work proposed, the required degree of interaction between parties, and other factors. If warranted, portions of resulting awards may be segregated into pre-priced options.

### The administrative addresses for this BAA are:

Fax: 703-741-7804 Addressed to: DARPA/IPTO, BAA 06-21

Electronic Mail: baa06-21@darpa.mil

Electronic File Retrieval: http://www.darpa.mil/ipto/Solicitations/solicitations.htm

Mail to: DARPA/IPTO ATTN: BAA 06-21 3701 N. Fairfax Drive

Arlington, VA 22203-1714